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APPLICANT : KAWASAKI STEEL CORP;

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TITLE : STEEL FOR HIGH STRENGTH SHAFT PARTS

ABSTRACT : PURPOSE: To obtain a steel for high strength shaft parts high in torsional strength and excellent in induction hardenability and cold workability by specifying a compsn. constituted of C, Si, Mn, P, S, Ti, B, N, O and Fe.

CONSTITUTION: A steel for high strength shaft parts contg., by weight, 0.35 to 0.60%,  $\leq 0.05$  % Si,  $> 0.65$  to 1.80% Mn,  $\leq 0.020$ % P, 0.005 to 0.035% S, 0.01 to 0.05% Ti, 0.0003 to 0.005% B,  $\leq 0.005$ % N,  $\leq 0.002$ % O and the balance Fe with inevitable impurities, satisfying  $IH=161.4C^2-145.6C^3-27.6C+0.01Si+4.10$   
 $Mn \geq 10.0$  and  $IT=78.7C+17.7Si+24.9Mn+4.19 \leq 70.2$  and furthermore mixed with prescribed amounts of Cr and Mo is obtd. This steel has high torsional strength and a long tool life at the time of cold working, by which a shaft member free from the need of annealing before working can be obtd.

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